BTEC Assignment Brief

Qualification	Pearson BTEC International Level 3 Subsidiary Diploma in Applied Science Pearson BTEC International Level 3 Foundation Diploma in Applied Science Pearson BTEC International Level 3 Diploma in Applied Science Pearson BTEC International Level 3 Diploma in Biomedical Science Pearson BTEC International Level 3 Extended Diploma in Applied Science Pearson BTEC International Level 3 Extended Diploma in Biomedical Science Pearson BTEC International Level 3 Extended Diploma in Environmental Science
Unit number and title	**Unit 12: Human Regulation and Reproduction**
Learning aim	**B:** Understand the homeostatic mechanisms used by the human body
Assignment title	**Homeostatic control of body systems**
Assessor	
Issue date	
Hand in deadline	

Vocational Scenario or Context	You have offered to volunteer for a charity who work to raise awareness and provide patients with support and up-to-date, easy to understand information about disorders of homeostasis. You have been assigned to research common homeostatic disorders and produce an illustrated report that details normal and abnormal functioning of the endocrine system and the treatments available to address disorders.
Task	To maintain homeostasis, a number of hormones are produced by glands in the body. Some glands are exocrine, some are endocrine and some are both. Using correct scientific terminology, produce a detailed illustrated report for your charity that includes: • Analyses, explains and describes how the physiological mechanisms involved in hormonal homeostatic regulation of body systems interact to maintain a stable internal environment allowing normal function of the body. • Your report must also analyse and describe the consequences to human health that may result from dysfunction of the homeostatic mechanisms. • Details of the potential methods used to correct malfunctions in the systems must be included in the report. • Illustrate your report with detailed, annotated feedback diagrams describing and explaining where each hormone is

	secreted, how the hormones act on the target organs and the responses involved. The report must include the regulation of: • Temperature, the role of the hypothalamus, pituitary gland, thyroid, parathyroid and relevant hormones • Blood glucose levels, the role of alpha and beta cells in the Islets of Langerhans and the liver. • Water balance and osmoregulation, the role of nephrons, Cl-, Na+, K+ ions, vasodilation and vasoconstriction of arterioles and their involvement in sweat and shivering.
Checklist of evidence required	An illustrated report that includes: • An analysis of the interrelation of homeostatic mechanisms and the impact of homeostatic dysfunction in thermoregulation, water balance and glucose levels. • An explanation and annotated feedback diagrams of the role of hormones in thermoregulation, water balance and glucose levels including thorough consideration of the secretion of different hormones and their mode of action on target organs and the responses those organs then carry out. • A description of how homeostatic feedback mechanisms respond to both internal and external factors in order to maintain the body's stable internal environment.

Criteria covered by this task:	
Unit/Criteria reference	To achieve the criteria, you must show that you are able to:
B.D2	Analyse the impact of homeostatic dysfunction on the human body
B.M2	Explain the role of hormones in homeostatic mechanisms
B.P2	Describe how homeostatic mechanisms maintain normal function

Sources of information to support you with this Assignment	http://www.livescience.com/26496-endocrine-system.html http://www.hormone.org/hormones-and-health/the-endocrine-system http://www.pbslearningmedia.org/resource/tdc02.sci.life.reg.bodycontrol/body-control-center/ http://ats.doit.wisc.edu/biology/ap/ho/t1_a1.htm http://www.abpischools.org.uk/page/modules/homeostasis_kidneys/kidneys6.cfm?coSiteNavigation_allTopic=1